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10/809,107	03/25/2004	Michael L. Santori	5150-82002	6647

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EXAMINER

KEATON, SHERROD L

ART UNIT

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2175

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/809,107

**Applicant(s)**

SANTORI ET AL.

**Examiner**

SHERROD KEATON

**Art Unit**

2175

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 5-21-2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 and 41-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 and 41-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/05
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

This action is in response to the original filing of 3-25-04. Claims 1-46 are pending and have been considered below:

#### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-13, 15-19, 21-24 and 31-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kudukoli et al. ("Kudukoli" 7000190 B2).

**Claim 1:** Kudukoli discloses a memory medium comprising program instructions for implementing an integrated interface for a plurality of instruments for signal analysis, wherein the memory medium is in a computer system comprising a display, wherein the program instructions are executable to implement:

- a) receiving user input specifying an operation, wherein the operation implements at least a portion of a signal analysis function (Column 5, Lines 1-15; Column 6, Lines 16-18; Column 5, Lines 46-47 ); user specifies operation or program to be run
- b) performing the operation in response to the specifying (Column 5, Lines 1-15),

wherein said performing utilizes at least one of the plurality of instruments to perform the operation (Column 14, Lines 15-29; Column 15, Lines 6-12);

c) displaying an icon on the display in response to said specifying, wherein the icon comprises a graphical representation of the operation, and wherein the icon is displayed upon the specifying (Column 4, Lines 48-54); icons are generated based on user programming and

d) storing information specifying the operation; repeating a) - d) a plurality of times to specify the signal analysis function (Column 7, Lines 36-43; Column 8, Lines 51-60) the system saves program code and allows user to add functionality which would repeat the steps above (specifying functionality adding icons that correspond to that functionality) to wherein the operations in the signal analysis function comprise at **least one of 1)** generating signals displayed in a graph (Figure 23; Column 36, Lines 1-6), and 2) modifying one or more signals displayed in the graph;

wherein, after each respective operation is specified, the operation is performed substantially continuously during said repeating (Column 36, Lines 9-11); the operation here is in a loop and is performed continuously.

wherein the signal analysis function utilizes at least a first plurality of the plurality of instruments (Column 14, Lines 20-22; Column 15, Lines 6-12);

wherein after said repeating a plurality of icons are displayed on the display representing a plurality of operations, wherein the plurality of icons are arranged to

visually indicate the signal analysis function (Column 4, Lines 49-54); and wherein said repeating produces a set of stored information representing the plurality of operations in the signal analysis function (Column 7, Lines 36-43).

**Claim 2:** Kudukoli discloses a memory medium of claim 1, wherein the program instructions execute under a signal analysis function development environment; and wherein the set of stored information specifying the plurality of operations is executable in the signal analysis function development environment to perform the signal analysis function (Column 5, Lines 44-47). The program can receive information to implement signal analysis.

**Claim 3:** Kudukoli discloses a memory medium of claim 2, wherein the program instructions are further executable to implement: executing the set of stored information, wherein said executing the set of stored information comprises executing the plurality of operations to perform the signal analysis function (Column 5, Lines 44-47).

**Claim 4:** Kudukoli discloses a memory medium of claim 1, wherein the operations in the signal analysis function further comprise **at least one of** 3) producing an output based

on one or more signals displayed in the graph; and 4) exporting a signal (Figure 23; a signal is exported into the waveform chart).

**Claim 5:** Kudukoli discloses a memory medium of claim 1, wherein the program instructions are further executable to implement:

specifying a relationship between a first icon and a second icon, thereby specifying a relationship between a first operation and a second operation;

wherein said specifying the relationship between the first icon and the second icon comprises specifying that data produced by the first operation is used by the second operation (Figures 25a-d). Shows icons connected that indicate a first operation with a second

**Claim 6:** Kudukoli discloses a memory medium of claim 1, wherein, during said repeating, receiving user input to one or more of the icons for configuring one or more of the plurality of operations, wherein said receiving user input for configuring one or more of the plurality of operations does not include receiving user input specifying programming language code to configure the operations; and wherein, for each operation, said configuring the operation affects functionality of the operation (Column 4, Lines 54-60). Front panel allows user input which will affect operation.

**Claim 7:** Kudukoli discloses a memory medium of claim 6, wherein the program instructions are further executable to implement:

for each operation to be configured,  
displaying a graphical panel including one or more graphical user interface elements for  
setting properties of the operation; and  
receiving user input to the graphical panel to set one or more properties of  
the operation (Column 4, Lines 54-60).

**Claim 8:** Kudukoli discloses a memory medium of claim 1, wherein the program  
instructions are further executable to implement:

receiving user input specifying removal of a first operation from the plurality of  
operations;

wherein, in response to the user input specifying removal, the program instructions are  
further executable to implement:

discontinuing performance of the first operation from the plurality of operations in  
response to said specifying removal; and

discontinuing display of the first icon in response to said specifying  
removal;

removing information associated with the first operation from the set of stored  
information; and

modifying one or more signals displayed in the graph, as needed (Column 8, Lines 51-  
63; Column 9, Lines 14-19).

**Claim 9:** Kudukoli discloses a memory medium of claim 1,

wherein the program instructions execute under a signal analysis function development environment; and

wherein the program instructions are further executable to implement:

generating a program implementing the plurality of operations, wherein the program is generated based on the set of stored information, wherein the program is executable outside of the signal analysis function development environment (Column 8, Lines 10-13). The program is executable on the hardware device.

**Claim 10:** Kudukoli discloses a memory medium of claim 1,

wherein each icon of the plurality of icons corresponds to one or more nodes in a graphical programming development environment (Column 4, Lines 49-60).

**Claim 11:** Kudukoli discloses a memory medium of claim 1, wherein the program instructions are further executable to implement:

generating a graphical program based on the set of stored information, wherein the graphical program comprises a plurality of interconnected nodes which visually indicate the signal analysis function, and wherein the graphical program is executable to perform the signal analysis function (Column 4, Lines 49-60; Column 5, Lines 45-48).

**Claim 12:** Kudukoli discloses a memory medium of claim 11, wherein the program instructions are further executable to implement:



receiving user input specifying removal of a first operation from the plurality of operations;  
removing a first operation from the plurality of operations in response to said specifying removal; and  
removing the one or more nodes corresponding to the first operation from the graphical program in response to said removing the first operation (Column 9, Lines 14-20; Column 38, Lines 4-8).

**Claim 13:** Kudukoli discloses a memory medium of claim 1, wherein the memory medium stores a plurality of virtual instruments, wherein each of the virtual instruments is executable on a computer system to implement an instrument function; and wherein the plurality of operations utilize two or more different ones of the plurality of virtual instruments (Column 27, Lines 57-61).

**Claim 15:** Kudukoli discloses a memory medium of claim 14, wherein at least a portion of the plurality of virtual instruments operate in conjunction with respective hardware boards (Column 8, Lines 10-13).

**Claim 16:** Kudukoli discloses a memory medium of claim 1, wherein the program instructions are further executable to implement:  
displaying a graphical user interface that provides access to a set of operations; and

wherein said receiving user input specifying the plurality of operations comprises receiving the user input to the graphical user interface specifying the plurality of operations, wherein the plurality of operations are selected from the set of operations (Column 4, Lines 49-60).

**Claim 17:** Kudukoli discloses a memory medium of claim 16, wherein said receiving user input to the graphical user interface specifying the plurality of operations does not include receiving user input specifying programming language code to implement the plurality of operations (Column 4, Lines 49-60).

**Claim 18:** Kudukoli discloses a memory medium of claim 1, wherein in receiving user input specifying an operation, the program instructions are executable to implement: receiving user input to the graph indicating one or more signals displayed in the graph;  
providing one or more operation options in response to said receiving user input to the graph; and  
receiving user input selecting an operation option from the provided one or more operation options, wherein the selected operation option indicates an operation to be performed on the indicated one or more signals (Column 36, Lines 9-21).

**Claim 19:** Kudukoli discloses a memory medium of claim 18, wherein the one or more

operation options comprise only operation options appropriate for the selected one or more signals (Column 36, Lines 9-21).

**Claim 21:** Kudukoli discloses a memory medium of claim 1, wherein the plurality of instruments comprises at least one standalone hardware device (Column 14, Lines 15-29).

**Claim 22:** Kudukoli discloses a memory medium of claim 1, wherein the information comprises configuration information for the plurality of instruments to perform the signal analysis function (Column 14, Lines 15-29, Column 15, Lines 6-12).

**Claim 23:** Kudukoli discloses a memory medium of claim 1, wherein the integrated interface comprises a Graphical User Interface (GUI) operable to be displayed on a display device (Column 4, Lines 49-60).

**Claim 24:** Kudukoli discloses a memory medium of claim 23, wherein the GUI comprises a soft front panel, wherein the soft front panel comprises an interface for a respective hardware board, and wherein the soft front panel emulates a front panel for the hardware board (Column 4, Lines 49-60; Column 14, Lines 26-19).

**Claim 31:** Claim 31 is similar in scope to claim 1 and therefore rejected under the same rationale.

**Claim 32:** Claim 32 is similar in scope to claim 2 and therefore rejected under the same rationale.

**Claim 33:** Claim 33 is similar in scope to claim 11 and therefore rejected under the same rationale.

**Claim 34:** Claim 34 is similar in scope to claim 1 and therefore rejected under the same rationale.

**Claim 35:** Claim 35 is similar in scope to claim 2 and therefore rejected under the same rationale.

**Claim 36:** Claim 36 is similar in scope to claim 11 and therefore rejected under the same rationale.

**Claim 37:** Claim 37 is similar in scope to claim 1 and therefore rejected under the same rationale.

Further Kudukoli discloses wherein at least one of the plurality of operations is operable to receive two or more input signals, and/or output two or more output signals, wherein said displaying an icon corresponding to the operation comprises displaying corresponding signal indicators for the two or more input signals and/or the two or more output signals on the icon (Figure 19; shown here is the ability to receive two input signals with indicators).

**Claim 38:** Claim 38 is similar in scope to claim 1 and therefore rejected under the same rationale.

However Kudukoli does not explicitly disclose wherein the at least a subset of the plurality of operations and/or the plurality of instruments are operable to output two or more signals, and wherein at least one of the plurality of operations is user-configurable to receive as input a user-selected signal from the two or more signals. Therefore Thomsen is provided because they disclose operations that can produce multiple signals and provide user configured area to receive the signals produced (Figure 9; Column 3, Lines 2-9). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide the functionality in Kudukoli as taught by Thomsen. One would have been motivated to provide this functionality to improve system ability to analysis multiple streams of data.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 14, 15, 25-30, 39 and 41-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kudukoli et al. ("Kudukoli" 7000190 B2) in view of Thomsen et al. ("Thomsen" 6064409).

**Claim 14:** Kudukoli discloses a memory medium of claim 13, and an oscilloscope VI (Figure 23) but does not explicitly disclose wherein the other plurality of virtual instruments comprise a signal generator VI and a multimeter VI Therefore Thomsen is provide because it discloses a graphical program and virtual instruments which include a signal generator and multimeter (Column 7, Lines 25-30). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide additional virtual instruments in Kudukoli as taught by Thomsen. One would have been motivated to provide the additional of virtual instruments because it makes the system more comprehensive and provides the ability to analysis a plurality of data.

**Claim 15:** Kudukoli discloses a memory medium of claim 1, but does not explicitly disclose wherein in receiving user input specifying an operation, the program instructions are executable to implement:  
receiving user input to the graph indicating one or more signals displayed in the graph;  
and  
receiving user input associating the one or more signals with a first icon of the plurality

of icons displayed on the display;

wherein after said associating, the operation represented by the first icon is performed on the one or more signals. However Thomsen is provided because it discloses in detail associating an icon with a graph and performing an operation (Column 10, Lines 9-22). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide an icon to perform operations on a graph in Kudukoli as taught by Thomsen. One would have been motivated to provide this functionality because the icon allows user to easily analysis data output by the graphing instrument.

**Claim 25:** Kudukoli discloses a memory medium of claim 24, wherein said receiving user input specifying an operation comprises:

But Kudukoli does not disclose the details of their programming nor receiving user input indicating a pre-defined graphical program, wherein the pre-defined graphical program implements the first operation. However Thomsen is provided because it discloses in detail predefined programs which are associated with a control (Column 7, Lines 38-47). The audio probe icon is set with a predefined program and performs an operation. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a predefined program in Kudukoli as taught by Thomsen. One would have been motivated to provide this functionality because a predefined

program allows the user to quickly access different operations without having to manually program them and this improves efficiency.

**Claim 26:** Kudukoli and Thomsen disclose a memory medium of claim 25, wherein the program instructions are further executable to implement:

associating the pre-defined graphical program with a control in the GUI, wherein the first operation is invocable via user input to the control (Thomsen: Column 8, Lines 1-12).

**Claim 27:** Kudukoli and Thomsen disclose a memory medium of claim 26, wherein said associating is performed in response to user input indicating an association between the pre-defined graphical program and the control (Thomsen: Column 7, Lines 49-51).

**Claim 28:** Kudukoli and Thomsen disclose a memory medium of claim 26, wherein the program instructions are further executable to implement:  
associating one or more of the operations of the signal analysis function with a respective control in the GUI, wherein the one or more operations are invocable via user input to the respective control (Thomsen: Column 7, Line 31-Column 8, Line 12).

**Claim 29:** Kudukoli and Thomsen disclose a memory medium of claim 28, wherein said receiving user input specifying an operation comprises:  
receiving user input to the respective control for the operation, thereby invoking the one or more operations (Thomsen: Column 7, Line 31-Column 8, Line 12).



**Claim 30:** Kudukoli and Thomsen disclose a memory medium of claim 25, wherein the program instructions are further executable to implement:  
displaying the pre-defined graphical program in the GUI (Thomsen: Figures 9 and 10b).

**Claim 39:** Claim 39 is similar in scope to claim 1, 23 and 24 and therefore rejected under the same rationale.

But Kudukoli does not disclose the details of their programming explicitly wherein the GUI further comprises a second plurality of controls, wherein each of the second plurality of controls is operable to be associated with a respective one or more operations, and wherein the respective one or more operations are invocable via the associated one of the second plurality of controls to perform at least a subset of the signal analysis function. Therefore Thomsen is provided because it discloses a plurality of controls that can perform some type of signal analysis (Column 5, Lines 30-60). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide the plurality of controls in Kudukoli as taught by Thomsen. One would have been motivated to provide this functionality because the controls allow the user to proficiently access and implement different operations.

**Claim 41:** Claim 41 is similar in scope to claim 25 and therefore rejected under the same rationale.

**Claim 42:** Claim 42 is similar in scope to claim 26 and therefore rejected under the same rationale.

**Claim 43:** Claim 43 is similar in scope to claim 27 and therefore rejected under the same rationale.

**Claim 44:** Claim 44 is similar in scope to claim 30 and therefore rejected under the same rationale.

**Claim 45:** Claim 45 is similar in scope to claim 28 and therefore rejected under the same rationale.

**Claim 46:** Kudukoli and Thomsen disclose a memory medium of claim 39, wherein the hardware device comprises a hardware board (Kudukoli: Column 14, Lines 21-23). Its understood that a hardware device will contain some type of hardware board in other to function.

### **Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sherrod Keaton whose telephone number is 571) 270-

1697. The examiner can normally be reached on Mon. thru Fri. and alternating Fri. off (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Bashore can be reached on 571-272-4088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SLK

1-14-2011

/William L. Bashore/

Supervisory Patent Examiner, Art Unit 2175